SEQUENCE LISTING

<110> CHRISTENSEN, GEIR
ANDERSSON, KRISTIN BREVIK

<120> NON-HUMAN MAMMAL COMPRISING A MODIFIED SERCA2 GENE AND METHODS, CELLS, GENES, AND VECTORS THEREOF

<130> 3657-1037

<140> 10/585,077
<141> 2006-06-29

<150> PCT/NO04/000397
<151> 2004-12-22

<150> 60/533,740
<151> 2003-12-30

<160> 32

<170> PatentIn Ver. 3.3

<210> 1
<211> 801
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic nucleotide construct

<400> 1
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gtgcggggcg ccggggctgc agcggcgcgg cgcgggcccg agcgccaagg aagatggctg 120
acccggctcc acctcgtggg gcttggctcg gcgcggcgcc cgacggctgc gagaggccgg 180
cggtccacgc gcgggtctgg gccatcgccg accttagggg tctcgaatca agcttatcga 240
taccgtcgat cggacctcga ggggggggccc ggtacccggg gatcaattcg agctcgcccg 300
gggatcgatc cggaaccctt aatataactt cgtataatgt atgctatacg aagttattag 360
gtccctcgac ctgcagccca agctccgggg atctcgagcc ggtgaccttc ccggccggcg 420
ctcagcgagt cggattgggg gggggggaga gggagtggga aggagggagg aggttcctgc 480
ggctgggctg agtcccccgc ggatttatga ggcgtcgatg ttgttgagaa accctcggac 540
cgtttcttgt gctccccaaa gttgcacatc tggcagaagt gatgacccag ctgaaatgac 600
tgcatggtcc tggaggccgg agagggctta cgggcagttc cgaggccact gattaccagg 660
gctgaataat tttctcgggg tatcaaagtg gagacagatt gttgtacgtt catacaccta 720
tatccgccat tcagacaacg atggtggtga atttagcagt ttttaataaa agcgctaata 780
caatatcttc atttttcttt c 801

<210> 2
<211> 803
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic nucleotide construct

<400> 2
ccaattttta ttcttagaac attgtattct tatactgtga taggaagtga aaaatcatac 60
agtacttgtc ttaggtttca caaaactgat aactgtatgg tttcaattat gtattcacac 120
gtttaagtct gacccagggg gatccggaac ccttaatata acttcgtata atgtatgcta 180
tacgaagtta ttaggtccct cgacctgcag cccaagctga tcctctagtc gagccccagc 240
tggttctttc cgcctcagaa gccatagagc ccaccgcatc cccagcatgc ctgctattgt 300
cttcccaatc ctccccctg ctgtcctgcc ccaccccacc ccccagaata gaatgacacc 360
tactcagaca atgcgatgca atttcctcat tttattagga aaggacagtg ggagtggcac 420
cttccagggt caaggaaggc acgggggagg ggcaaacaac agatggctgg caactagaag 480
gcacagtcga ggctgatcag cgagctctag ctagagaatt gatcccctca gaagaactcg 540
tcaagaaggc gatagaaggc gatgcgctgc gaatcgggag cggcgatccg taaagcacga 600
ggaagcggca gcccattcgc cgccaagctc tttcagcaat atcacgggta gccaacgcta 660
tgtctgataa gcggtccgcc cacacccaac cggccacaag tcatgaaatc caaaaaagcg 720
ggccattttt ccaccatgat tttcggcaag caaggccttt ccattgggtc accgacagac 780
atttccgtcg gcattgcgcc cct 803

<210> 3
<211> 860
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide construct

<400> 3
gttttcatac caccgcgggt cccgggcgat atttcacctt gtcagcggtg ttgtgtggtg 60
taaatgttcg cgattgtttc gaaagcccca gcacccgcca gtaagtcatc ggctcgggta 120
cgtagacgat atcgtcgcgc gaacccaggg ccaccagcaa gttgcgtggt ggtggttttc 180
cccatccgtg gggacgtcta tataaaccgc agtagcgtgg gcattttctg ctccgggcgg 240
acttccgtgg cttcttgctg ccggcgaggg cgcaacgccg tacgtcggtt gctatggccg 300
cgagaacgcg cagcctggtc gaacgcagac gcgtgttgat ggccggggta cgaagccata 360
cgcgcttcta caaggcgctg gccgaagagg tgcgggagtt tcacgccacc aagatctgcg 420
gcacgctgtt gacgctgtta agcgggtcgc tgcagggtcg ctcggtgttc gaggccacac 480
gcgtcacctt aatatgcgaa gtggacctcg gaccgcgccg ccccgactgc atctgcgtgt 540
tcgaattcgc caatgacaag acgctgggcg gggtttgctc gacattgggt ggaaacattc 600
caggcctggg tggagaggct ttttgcttcc tcttgcaaaa ccacactgct cgacattggg 660
tggaaacatt ccaggcctgg gtggagaggc tttttgcttc ctcttgaaaa ccacactgct 720
cgatccggaa cccttaatat aacttcgtat aatgtatgct atacgaagtt attaggtccc 780
tcgacctgca gcccaagctg atcctctaga gtcgacctcg atctgtggtc atggcctcta 840
tgaaaacatt agcttagagg 860

<210> 4
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 4
ataacttcgt ataatgtatg ctatacgaag ttat 34

<210> 5
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 5
ccaaggaaga tggctgacc 19

<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 6
catcgacgcc tcataaatcc 20

<210> 7
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 7
tcttcataac acacgccaat tt 22

<210> 8
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 8
ccctttgctg ccaattaact att 23

<210> 9
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 9
acctctaggg gtctcgaatc a 21

<210> 10
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 10
aagttgaata accggaaatg gttt 24

<210> 11
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 11
tgttataagc aatccccaga aatg 24

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 12
aggctcctcg aactctccag 20

<210> 13
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 13
gtaagagagc ttccctcctc ctt 23

<210> 14
<211> 994
<212> PRT
<213> Mus musculus

<400> 14

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Met Glu Ala Ala His Ser Lys Ser Thr Glu Glu Cys Leu Ser Tyr Phe
  1               5                  10                  15

Gly Val Ser Glu Thr Thr Gly Leu Thr Pro Asp Gln Val Lys Arg His
             20                  25                  30

Leu Glu Lys Tyr Gly Pro Asn Glu Leu Pro Ala Glu Glu Gly Lys Ser
         35                  40                  45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Val Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Ile Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Ala Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Arg Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Ile Leu Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Val Gly Ile Val Ala
    210                 215                 220

Thr Thr Gly Val Ser Thr Glu Ile Gly Lys Ile Arg Asp Gln Met Ala
225                 230                 235                 240

Ala Thr Glu Gln Asp Lys Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Val Ala Val Trp
            260                 265                 270
```

```
Leu Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Phe Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Lys Met Phe Ile
        355                 360                 365

Ile Asp Lys Val Asp Gly Asp Val Cys Ser Leu Asn Glu Phe Ser Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Glu Gly Glu Val Leu Lys Asn Asp Lys
385                 390                 395                 400

Pro Val Arg Ala Gly Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ser Leu Asp Phe Asn Glu Thr Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Thr Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asn Thr Glu Val Arg Ser Leu Ser Lys
    450                 455                 460

Val Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Arg Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Ser Pro Ala Lys Ser Ser Arg Ala Ala Val Gly Asn Lys Met
            500                 505                 510

Phe Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Asn Tyr Val
        515                 520                 525

Arg Val Gly Thr Thr Arg Val Pro Leu Thr Gly Pro Val Lys Glu Lys
    530                 535                 540

Ile Met Ser Val Ile Lys Glu Trp Gly Thr Gly Arg Asp Thr Leu Arg
545                 550                 555                 560

Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Lys Arg Glu Glu Met
                565                 570                 575
```

```
Val Leu Asp Asp Ser Ala Lys Phe Met Glu Tyr Glu Met Asp Leu Thr
            580                 585                 590

Phe Val Gly Val Val Gly Met Leu Asp Pro Pro Arg Lys Glu Val Thr
        595                 600                 605

Gly Ser Ile Gln Leu Cys Arg Asp Ala Gly Ile Arg Val Ile Met Ile
    610                 615                 620

Thr Gly Asp Asn Lys Gly Thr Ala Ile Ala Ile Cys Arg Arg Ile Gly
625                 630                 635                 640

Ile Phe Ser Glu Asn Glu Glu Val Thr Asp Arg Ala Tyr Thr Gly Arg
                645                 650                 655

Glu Phe Asp Asp Leu Pro Leu Ala Glu Gln Arg Glu Ala Cys Arg Arg
            660                 665                 670

Ala Cys Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val
        675                 680                 685

Glu Tyr Leu Gln Ser Tyr Asp Glu Ile Thr Ala Met Thr Gly Asp Gly
    690                 695                 700

Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
705                 710                 715                 720

Gly Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala
                725                 730                 735

Asp Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala
            740                 745                 750

Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
        755                 760                 765

Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Leu Pro
    770                 775                 780

Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
785                 790                 795                 800

Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
                805                 810                 815

Met Asp Arg Pro Pro Arg Ser Pro Lys Glu Pro Leu Ile Ser Gly Trp
            820                 825                 830

Leu Phe Phe Arg Tyr Met Ala Ile Gly Gly Tyr Val Gly Ala Ala Thr
        835                 840                 845

Val Gly Ala Ala Ala Trp Trp Phe Leu Tyr Ala Glu Asp Gly Pro His
    850                 855                 860

Val Ser Tyr His Gln Leu Thr His Phe Met Gln Cys Thr Glu His Asn
865                 870                 875                 880
```

```
Pro Glu Phe Asp Gly Leu Asp Cys Glu Val Phe Glu Ala Pro Glu Pro
                885                 890                 895

Met Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
            900                 905                 910

Leu Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
        915                 920                 925

Val Asn Ile Trp Leu Leu Gly Ser Ile Cys Leu Ser Met Ser Leu His
    930                 935                 940

Phe Leu Ile Leu Tyr Val Asp Pro Leu Pro Met Ile Phe Lys Leu Arg
945                 950                 955                 960

Ala Leu Asp Phe Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro
                965                 970                 975

Val Ile Gly Leu Asp Glu Leu Leu Lys Phe Ile Ala Arg Asn Tyr Leu
            980                 985                 990

Glu Gly
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<210> 15
<211> 998
<212> PRT
<213> Mus musculus

<400> 15

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Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140
```

```
Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445
```

```
Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750
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```
Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Gln Pro Ala Ile Leu Glu
        995
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<210> 16
<211> 1044
<212> PRT
<213> Mus musculus

<400> 16

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Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15
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Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320
```

```
Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620
```

```
Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925
```

```
Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Gln Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Ser Cys Ser
        995                1000                1005

Leu Ser Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile
   1010                1015                1020

Met Pro Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp
1025                1030                1035                1040

Met Phe Trp Ser
```

<210> 17
<211> 999
<212> PRT
<213> Mus musculus

<400> 17

```
Met Glu Glu Ala His Leu Leu Ser Ala Ala Asp Val Leu Arg Arg Phe
  1               5                  10                  15

Ser Val Thr Ala Glu Gly Gly Leu Ser Leu Glu Gln Val Thr Asp Ala
             20                  25                  30

Arg Glu Arg Tyr Gly Pro Asn Glu Leu Pro Thr Glu Glu Gly Lys Ser
         35                  40                  45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Leu Val Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Thr Thr Ala Phe Val Glu Pro Leu Val Ile Met Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Ser Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Ile Arg Ser Asp Arg Lys Gly Val Gln Arg Ile Arg Ala Arg Asp
    130                 135                 140
```

```
Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
            180                 185                 190

Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val
    210                 215                 220

Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
225                 230                 235                 240

Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
                245                 250                 255

Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
            260                 265                 270

Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
        275                 280                 285

Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
        355                 360                 365

Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
    370                 375                 380

Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
385                 390                 395                 400

Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445
```

```
Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
    450                 455                 460

Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
            500                 505                 510

Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
        515                 520                 525

Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
    530                 535                 540

Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg
545                 550                 555                 560

Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Arg Lys Glu Asp Met
                565                 570                 575

His Leu Asp Asp Cys Ser Arg Phe Val Gln Tyr Glu Thr Asp Leu Thr
            580                 585                 590

Phe Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Pro Glu Val Ala
        595                 600                 605

Ala Cys Val Thr Arg Cys Ser Arg Ala Gly Ile Arg Val Val Met Ile
    610                 615                 620

Thr Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Leu Gly
625                 630                 635                 640

Ile Phe Gly Asp Thr Glu Asp Val Leu Gly Lys Ala Tyr Thr Gly Arg
                645                 650                 655

Glu Phe Asp Asp Leu Ser Pro Glu Gln Gln Arg Gln Ala Cys Arg Thr
            660                 665                 670

Ala Arg Cys Phe Ala Arg Val Glu Pro Ala His Lys Ser Arg Ile Val
        675                 680                 685

Glu Asn Leu Gln Ser Phe Asn Glu Ile Thr Ala Met Thr Gly Asp Gly
    690                 695                 700

Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
705                 710                 715                 720

Gly Ser Gly Thr Ala Val Ala Lys Ser Ala Ala Glu Met Val Leu Ser
                725                 730                 735

Asp Asp Asn Phe Ala Ser Ile Val Ala Ala Val Glu Glu Gly Arg Ala
            740                 745                 750
```

```
Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
        755                 760                 765

Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ile Leu Gly Leu Pro
    770                 775                 780

Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
785                 790                 795                 800

Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
                805                 810                 815

Met Glu Lys Pro Pro Arg Asn Pro Arg Glu Ala Leu Ile Ser Gly Trp
            820                 825                 830

Leu Phe Phe Arg Tyr Leu Ala Ile Gly Val Tyr Val Gly Leu Ala Thr
        835                 840                 845

Val Ala Ala Ala Thr Trp Trp Phe Ile Ala Asp Ala Glu Gly Pro Gln
    850                 855                 860

Val Thr Phe Tyr Gln Leu Arg Asn Phe Leu Lys Cys Ser Glu Asp Asn
865                 870                 875                 880

Pro Leu Phe Ala Gly Ile Asp Cys Lys Val Phe Glu Ser Arg Phe Pro
                885                 890                 895

Thr Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
            900                 905                 910

Leu Asn Ser Val Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
        915                 920                 925

Leu Asn Pro Trp Leu Leu Gly Ala Val Val Met Ser Met Ala Leu His
    930                 935                 940

Phe Leu Ile Leu Leu Val Pro Pro Leu Pro Leu Ile Phe Gln Val Thr
945                 950                 955                 960

Pro Leu Ser Gly Arg Gln Trp Gly Val Val Leu Gln Met Ser Leu Pro
                965                 970                 975

Val Ile Leu Met Asp Glu Ala Leu Lys Tyr Leu Ser Arg Asn His Met
            980                 985                 990

Asp Glu Lys Lys Asp Leu Lys
        995
```

<210> 18
<211> 1038
<212> PRT
<213> Mus musculus

<400> 18

```
Met Glu Glu Ala His Leu Leu Ser Ala Ala Asp Val Leu Arg Arg Phe
  1               5                  10                  15
```

```
Ser Val Thr Ala Glu Gly Gly Leu Ser Leu Glu Gln Val Thr Asp Ala
                20                  25                  30

Arg Glu Arg Tyr Gly Pro Asn Glu Leu Pro Thr Glu Glu Gly Lys Ser
            35                  40                  45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
        50                  55                  60

Leu Leu Leu Ala Ala Leu Val Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Thr Thr Ala Phe Val Glu Pro Leu Val Ile Met Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Ser Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Ile Arg Ser Asp Arg Lys Gly Val Gln Arg Ile Arg Ala Arg Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
            180                 185                 190

Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val
    210                 215                 220

Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
225                 230                 235                 240

Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
                245                 250                 255

Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
            260                 265                 270

Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
        275                 280                 285

Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320
```

```
Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
        355                 360                 365

Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
    370                 375                 380

Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
385                 390                 395                 400

Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
    450                 455                 460

Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
            500                 505                 510

Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
        515                 520                 525

Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
    530                 535                 540

Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg
545                 550                 555                 560

Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Arg Lys Glu Asp Met
                565                 570                 575

His Leu Asp Asp Cys Ser Arg Phe Val Gln Tyr Glu Thr Asp Leu Thr
            580                 585                 590

Phe Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Pro Glu Val Ala
        595                 600                 605

Ala Cys Val Thr Arg Cys Ser Arg Ala Gly Ile Arg Val Val Met Ile
    610                 615                 620
```

Thr Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Leu Gly
625 630 635 640

Ile Phe Gly Asp Thr Glu Asp Val Leu Gly Lys Ala Tyr Thr Gly Arg
645 650 655

Glu Phe Asp Asp Leu Ser Pro Glu Gln Gln Arg Gln Ala Cys Arg Thr
660 665 670

Ala Arg Cys Phe Ala Arg Val Glu Pro Ala His Lys Ser Arg Ile Val
675 680 685

Glu Asn Leu Gln Ser Phe Asn Glu Ile Thr Ala Met Thr Gly Asp Gly
690 695 700

Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
705 710 715 720

Gly Ser Gly Thr Ala Val Ala Lys Ser Ala Ala Glu Met Val Leu Ser
725 730 735

Asp Asp Asn Phe Ala Ser Ile Val Ala Ala Val Glu Glu Gly Arg Ala
740 745 750

Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
755 760 765

Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ile Leu Gly Leu Pro
770 775 780

Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
785 790 795 800

Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
805 810 815

Met Glu Lys Pro Pro Arg Asn Pro Arg Glu Ala Leu Ile Ser Gly Trp
820 825 830

Leu Phe Phe Arg Tyr Leu Ala Ile Gly Val Tyr Val Gly Leu Ala Thr
835 840 845

Val Ala Ala Ala Thr Trp Trp Phe Ile Ala Asp Ala Glu Gly Pro Gln
850 855 860

Val Thr Phe Tyr Gln Leu Arg Asn Phe Leu Lys Cys Ser Glu Asp Asn
865 870 875 880

Pro Leu Phe Ala Gly Ile Asp Cys Lys Val Phe Glu Ser Arg Phe Pro
885 890 895

Thr Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
900 905 910

Leu Asn Ser Val Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
915 920 925

```
Leu Asn Pro Trp Leu Leu Gly Ala Val Val Met Ser Met Ala Leu His
    930                 935                 940

Phe Leu Ile Leu Leu Val Pro Pro Leu Pro Leu Ile Phe Gln Val Thr
945                 950                 955                 960

Pro Leu Ser Gly Arg Gln Trp Gly Val Val Leu Gln Met Ser Leu Pro
                965                 970                 975

Val Ile Leu Met Asp Glu Ala Leu Lys Tyr Leu Ser Arg Asn His Met
            980                 985                 990

Asp Glu Val Leu Gly Thr Phe Met Gln Ala Arg Ser Arg Gln Leu Pro
        995                1000                1005

Thr Thr Ser Arg Thr Pro Tyr His Thr Gly Lys Lys Gly Pro Glu Val
   1010                1015                1020

Asn Pro Gly Ser Arg Gly Glu Ser Pro Val Trp Pro Ser Asp
1025                1030                1035
```

<210> 19
<211> 1026
<212> PRT
<213> Mus musculus

<400> 19

```
Met Glu Glu Ala His Leu Leu Ser Ala Ala Asp Val Leu Arg Arg Phe
  1               5                  10                  15

Ser Val Thr Ala Glu Gly Gly Leu Ser Leu Glu Gln Val Thr Asp Ala
             20                  25                  30

Arg Glu Arg Tyr Gly Pro Asn Glu Leu Pro Thr Glu Glu Gly Lys Ser
         35                  40                  45

Leu Trp Glu Leu Val Val Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Leu Val Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Thr Thr Ala Phe Val Glu Pro Leu Val Ile Met Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Ser Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Ile Arg Ser Asp Arg Lys Gly Val Gln Arg Ile Arg Ala Arg Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Val Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160
```

Ala Asp Leu Arg Leu Ile Glu Ile Lys Ser Thr Thr Leu Arg Val Asp
165 170 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Thr Lys His Thr Asp
180 185 190

Ala Ile Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
195 200 205

Phe Ser Gly Thr Asn Ile Ala Ser Gly Lys Ala Leu Gly Val Ala Val
210 215 220

Ala Thr Gly Leu Gln Thr Glu Leu Gly Lys Ile Arg Ser Gln Met Ala
225 230 235 240

Ala Val Glu Pro Glu Arg Thr Pro Leu Gln Arg Lys Leu Asp Glu Phe
245 250 255

Gly Arg Gln Leu Ser His Ala Ile Ser Val Ile Cys Val Ala Val Trp
260 265 270

Val Ile Asn Ile Gly His Phe Ala Asp Pro Ala His Gly Gly Ser Trp
275 280 285

Leu Arg Gly Ala Val Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
290 295 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320

Leu Gly Thr Arg Arg Met Ala Arg Lys Asn Ala Ile Val Arg Ser Leu
325 330 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
340 345 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Val
355 360 365

Val Ala Glu Ala Glu Ala Gly Thr Cys Arg Leu His Glu Phe Thr Ile
370 375 380

Ser Gly Thr Thr Tyr Thr Pro Glu Gly Glu Val Arg Gln Gly Glu Gln
385 390 395 400

Pro Val Arg Cys Gly Gln Phe Asp Gly Leu Val Glu Leu Ala Thr Ile
405 410 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
420 425 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
435 440 445

Val Glu Lys Met Asn Val Phe Asp Thr Asp Leu Lys Gly Leu Ser Arg
450 455 460

```
Val Glu Arg Ala Gly Ala Cys Asn Ser Val Ile Lys Gln Leu Met Arg
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Thr Arg Ala Asp Pro Lys Val Gln Ser Ser Lys Met
            500                 505                 510

Phe Val Lys Gly Ala Pro Glu Ser Val Ile Glu Arg Cys Ser Ser Val
        515                 520                 525

Arg Val Gly Ser Arg Thr Ala Pro Leu Ser Thr Thr Ser Arg Glu His
    530                 535                 540

Ile Leu Ala Lys Ile Arg Asp Trp Gly Ser Gly Ser Asp Thr Leu Arg
545                 550                 555                 560

Cys Leu Ala Leu Ala Thr Arg Asp Thr Pro Pro Arg Lys Glu Asp Met
                565                 570                 575

His Leu Asp Asp Cys Ser Arg Phe Val Gln Tyr Glu Thr Asp Leu Thr
            580                 585                 590

Phe Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Pro Glu Val Ala
        595                 600                 605

Ala Cys Val Thr Arg Cys Ser Arg Ala Gly Ile Arg Val Val Met Ile
    610                 615                 620

Thr Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Leu Gly
625                 630                 635                 640

Ile Phe Gly Asp Thr Glu Asp Val Leu Gly Lys Ala Tyr Thr Gly Arg
                645                 650                 655

Glu Phe Asp Asp Leu Ser Pro Glu Gln Gln Arg Gln Ala Cys Arg Thr
            660                 665                 670

Ala Arg Cys Phe Ala Arg Val Glu Pro Ala His Lys Ser Arg Ile Val
        675                 680                 685

Glu Asn Leu Gln Ser Phe Asn Glu Ile Thr Ala Met Thr Gly Asp Gly
    690                 695                 700

Val Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met
705                 710                 715                 720

Gly Ser Gly Thr Ala Val Ala Lys Ser Ala Ala Glu Met Val Leu Ser
                725                 730                 735

Asp Asp Asn Phe Ala Ser Ile Val Ala Ala Val Glu Glu Gly Arg Ala
            740                 745                 750

Ile Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn
        755                 760                 765
```

```
Val Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ile Leu Gly Leu Pro
    770                 775                 780

Glu Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp
785                 790                 795                 800

Gly Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile
                805                 810                 815

Met Glu Lys Pro Pro Arg Asn Pro Arg Glu Ala Leu Ile Ser Gly Trp
            820                 825                 830

Leu Phe Phe Arg Tyr Leu Ala Ile Gly Val Tyr Val Gly Leu Ala Thr
        835                 840                 845

Val Ala Ala Ala Thr Trp Trp Phe Ile Ala Asp Ala Glu Gly Pro Gln
    850                 855                 860

Val Thr Phe Tyr Gln Leu Arg Asn Phe Leu Lys Cys Ser Glu Asp Asn
865                 870                 875                 880

Pro Leu Phe Ala Gly Ile Asp Cys Lys Val Phe Glu Ser Arg Phe Pro
                885                 890                 895

Thr Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala
            900                 905                 910

Leu Asn Ser Val Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp
        915                 920                 925

Leu Asn Pro Trp Leu Leu Gly Ala Val Val Met Ser Met Ala Leu His
    930                 935                 940

Phe Leu Ile Leu Leu Val Pro Pro Leu Pro Leu Ile Phe Gln Val Thr
945                 950                 955                 960

Pro Leu Ser Gly Arg Gln Trp Gly Val Val Leu Gln Met Ser Leu Pro
                965                 970                 975

Val Ile Leu Met Asp Glu Ala Leu Lys Tyr Leu Ser Arg Asn His Met
            980                 985                 990

Asp Glu Val Leu Gly Thr Phe Met Gln Ala Arg Ser Arg Gln Leu Pro
        995                1000                1005

Thr Thr Ser Arg Thr Pro Tyr His Thr Gly Leu Ala Ser Trp Lys Lys
   1010                1015                1020

Arg Thr
1025
```

<210> 20
<211> 998
<212> PRT
<213> Mus musculus

<400> 20

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300
```

```
Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605
```

```
Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910
```

```
Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Gln Pro Ala Ile Leu Glu
        995
```

<210> 21
<211> 1044
<212> PRT
<213> Mus musculus

<400> 21

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175
```

```
Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Ser Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480
```

```
Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Lys Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780
```

```
Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Asp Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Gln Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Ser Cys Ser
        995                1000                1005

Leu Ser Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile
   1010                1015                1020

Met Pro Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp
1025                1030                1035                1040

Met Phe Trp Ser
```

<210> 22
<211> 1043
<212> PRT
<213> Rattus norvegicus

<400> 22

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300
```

```
Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605
```

```
Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910
```

```
Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Gly Lys Glu Cys Ala Gln Pro Ala Thr Lys Pro Ser Cys Ser Leu
        995                1000                1005

Ser Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met
   1010                1015                1020

Pro Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met
1025                1030                1035                1040

Phe Trp Ser
```

<210> 23
<211> 997
<212> PRT
<213> Rattus norvegicus

<400> 23

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125
```

```
Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val Gln Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430
```

```
Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735
```

```
Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995
```

<210> 24
<211> 997
<212> PRT
<213> Canis familiaris

<400> 24

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300
```

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305 310 315 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
325 330 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
340 345 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
355 360 365

Leu Asp Arg Val Glu Gly Asp Ser Cys Ser Leu Asn Glu Phe Thr Ile
370 375 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385 390 395 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
405 410 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
420 425 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
435 440 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
450 455 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465 470 475 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
485 490 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
500 505 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
515 520 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Val
530 535 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545 550 555 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met Asn
565 570 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
580 585 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
595 600 605

```
Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Asp Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910
```

```
Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995
```

<210> 25
<211> 997
<212> PRT
<213> Felis catus

<400> 25

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly Tyr Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175
```

```
Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Lys Lys Phe Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480
```

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
485 490 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
500 505 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
515 520 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Val
530 535 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545 550 555 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met Asn
565 570 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
580 585 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
595 600 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
610 615 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625 630 635 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
645 650 655

Phe Asp Glu Leu Ser Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
660 665 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
675 680 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
690 695 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705 710 715 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
725 730 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
740 745 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
755 760 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
770 775 780

```
Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Asp Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995


<210> 26
<211> 997
<212> PRT
<213> Sus scrofa

<400> 26
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45
```

```
Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350
```

```
Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Met Arg Arg Glu Glu Met Asn
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655
```

```
Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Glu Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Thr Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Val Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960
```

```
Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995
```

<210> 27
<211> 1042
<212> PRT
<213> Sus scrofa

<400> 27

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220
```

```
Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525
```

```
Val Gly Ser Thr Lys Val Pro Met Thr Pro Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Met Arg Arg Glu Glu Met Asn
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Glu Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ser Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830
```

```
Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Thr Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Val Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Leu Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Cys Ser Phe Ser
        995                1000                1005

Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met Pro
   1010                1015                1020

Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met Phe
1025                1030                1035                1040

Trp Ser
```

<210> 28
<211> 1042
<212> PRT
<213> Homo sapiens

<400> 28

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45
```

```
Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350
```

```
Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655
```

```
Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960
```

```
Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Gly Lys Glu Cys Val Gln Pro Ala Thr Lys Ser Cys Ser Phe Ser
        995                1000                1005

Ala Cys Thr Asp Gly Ile Ser Trp Pro Phe Val Leu Leu Ile Met Pro
   1010                1015                1020

Leu Val Val Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Met Phe
1025                1030                1035                1040

Trp Ser
```

<210> 29
<211> 998
<212> PRT
<213> Homo sapiens

<400> 29

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175
```

```
Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480
```

```
Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780
```

```
Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Val Leu Ser Ser Leu
        995
```

<210> 30
<211> 997
<212> PRT
<213> Homo sapiens

<400> 30

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
             20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
         35                  40                  45
```

```
Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
     50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
 65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                 85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350
```

```
Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Arg Val Glu Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Asn Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Ser Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Glu Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Asp Glu Asp Val Thr Ser Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655
```

```
Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960
```

```
Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995
```

<210> 31
<211> 997
<212> PRT
<213> Oryctolagus cuniculus

<400> 31

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95

Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220
```

```
Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Asp Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400

Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525
```

```
Val Gly Ser Thr Lys Val Pro Met Thr Ala Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Lys Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Glu Glu Asp Val Thr Ala Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700

Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830
```

```
Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Ala Ile Leu Glu
        995
```

<210> 32
<211> 1042
<212> PRT
<213> Oryctolagus cuniculus

<400> 32

```
Met Glu Asn Ala His Thr Lys Thr Val Glu Glu Val Leu Gly His Phe
  1               5                  10                  15

Gly Val Asn Glu Ser Thr Gly Leu Ser Leu Glu Gln Val Lys Lys Leu
            20                  25                  30

Lys Glu Arg Trp Gly Ser Asn Glu Leu Pro Ala Glu Glu Gly Lys Thr
        35                  40                  45

Leu Leu Glu Leu Val Ile Glu Gln Phe Glu Asp Leu Leu Val Arg Ile
    50                  55                  60

Leu Leu Leu Ala Ala Cys Ile Ser Phe Val Leu Ala Trp Phe Glu Glu
65                  70                  75                  80

Gly Glu Glu Thr Ile Thr Ala Phe Val Glu Pro Phe Val Ile Leu Leu
                85                  90                  95
```

```
Ile Leu Val Ala Asn Ala Ile Val Gly Val Trp Gln Glu Arg Asn Ala
            100                 105                 110

Glu Asn Ala Ile Glu Ala Leu Lys Glu Tyr Glu Pro Glu Met Gly Lys
        115                 120                 125

Val Tyr Arg Gln Asp Arg Lys Ser Val Gln Arg Ile Lys Ala Lys Asp
    130                 135                 140

Ile Val Pro Gly Asp Ile Val Glu Ile Ala Val Gly Asp Lys Val Pro
145                 150                 155                 160

Ala Asp Ile Arg Leu Thr Ser Ile Lys Ser Thr Thr Leu Arg Val Asp
                165                 170                 175

Gln Ser Ile Leu Thr Gly Glu Ser Val Ser Val Ile Lys His Thr Asp
            180                 185                 190

Pro Val Pro Asp Pro Arg Ala Val Asn Gln Asp Lys Lys Asn Met Leu
        195                 200                 205

Phe Ser Gly Thr Asn Ile Ala Ala Gly Lys Ala Met Gly Val Val Val
    210                 215                 220

Ala Thr Gly Val Asn Thr Glu Ile Gly Lys Ile Arg Asp Glu Met Val
225                 230                 235                 240

Ala Thr Glu Gln Glu Arg Thr Pro Leu Gln Gln Lys Leu Asp Glu Phe
                245                 250                 255

Gly Glu Gln Leu Ser Lys Val Ile Ser Leu Ile Cys Ile Ala Val Trp
            260                 265                 270

Ile Ile Asn Ile Gly His Phe Asn Asp Pro Val His Gly Gly Ser Trp
        275                 280                 285

Ile Arg Gly Ala Ile Tyr Tyr Phe Lys Ile Ala Val Ala Leu Ala Val
    290                 295                 300

Ala Ala Ile Pro Glu Gly Leu Pro Ala Val Ile Thr Thr Cys Leu Ala
305                 310                 315                 320

Leu Gly Thr Arg Arg Met Ala Lys Lys Asn Ala Ile Val Arg Ser Leu
                325                 330                 335

Pro Ser Val Glu Thr Leu Gly Cys Thr Ser Val Ile Cys Ser Asp Lys
            340                 345                 350

Thr Gly Thr Leu Thr Thr Asn Gln Met Ser Val Cys Arg Met Phe Ile
        355                 360                 365

Leu Asp Lys Val Asp Gly Asp Thr Cys Ser Leu Asn Glu Phe Thr Ile
    370                 375                 380

Thr Gly Ser Thr Tyr Ala Pro Ile Gly Glu Val His Lys Asp Asp Lys
385                 390                 395                 400
```

```
Pro Val Lys Cys His Gln Tyr Asp Gly Leu Val Glu Leu Ala Thr Ile
                405                 410                 415

Cys Ala Leu Cys Asn Asp Ser Ala Leu Asp Tyr Asn Glu Ala Lys Gly
            420                 425                 430

Val Tyr Glu Lys Val Gly Glu Ala Thr Glu Thr Ala Leu Thr Cys Leu
        435                 440                 445

Val Glu Lys Met Asn Val Phe Asp Thr Glu Leu Lys Gly Leu Ser Lys
    450                 455                 460

Ile Glu Arg Ala Asn Ala Cys Asn Ser Val Ile Lys Gln Leu Met Lys
465                 470                 475                 480

Lys Glu Phe Thr Leu Glu Phe Ser Arg Asp Arg Lys Ser Met Ser Val
                485                 490                 495

Tyr Cys Thr Pro Asn Lys Pro Ser Arg Thr Ser Met Ser Lys Met Phe
            500                 505                 510

Val Lys Gly Ala Pro Glu Gly Val Ile Asp Arg Cys Thr His Ile Arg
        515                 520                 525

Val Gly Ser Thr Lys Val Pro Met Thr Ala Gly Val Lys Gln Lys Ile
    530                 535                 540

Met Ser Val Ile Arg Glu Trp Gly Ser Gly Ser Asp Thr Leu Arg Cys
545                 550                 555                 560

Leu Ala Leu Ala Thr His Asp Asn Pro Leu Arg Arg Glu Glu Met His
                565                 570                 575

Leu Lys Asp Ser Ala Asn Phe Ile Lys Tyr Glu Thr Asn Leu Thr Phe
            580                 585                 590

Val Gly Cys Val Gly Met Leu Asp Pro Pro Arg Ile Glu Val Ala Ser
        595                 600                 605

Ser Val Lys Leu Cys Arg Gln Ala Gly Ile Arg Val Ile Met Ile Thr
    610                 615                 620

Gly Asp Asn Lys Gly Thr Ala Val Ala Ile Cys Arg Arg Ile Gly Ile
625                 630                 635                 640

Phe Gly Gln Glu Glu Asp Val Thr Ala Lys Ala Phe Thr Gly Arg Glu
                645                 650                 655

Phe Asp Glu Leu Asn Pro Ser Ala Gln Arg Asp Ala Cys Leu Asn Ala
            660                 665                 670

Arg Cys Phe Ala Arg Val Glu Pro Ser His Lys Ser Lys Ile Val Glu
        675                 680                 685

Phe Leu Gln Ser Phe Asp Glu Ile Thr Ala Met Thr Gly Asp Gly Val
    690                 695                 700
```

```
Asn Asp Ala Pro Ala Leu Lys Lys Ala Glu Ile Gly Ile Ala Met Gly
705                 710                 715                 720

Ser Gly Thr Ala Val Ala Lys Thr Ala Ser Glu Met Val Leu Ala Asp
                725                 730                 735

Asp Asn Phe Ser Thr Ile Val Ala Ala Val Glu Glu Gly Arg Ala Ile
            740                 745                 750

Tyr Asn Asn Met Lys Gln Phe Ile Arg Tyr Leu Ile Ser Ser Asn Val
        755                 760                 765

Gly Glu Val Val Cys Ile Phe Leu Thr Ala Ala Leu Gly Phe Pro Glu
    770                 775                 780

Ala Leu Ile Pro Val Gln Leu Leu Trp Val Asn Leu Val Thr Asp Gly
785                 790                 795                 800

Leu Pro Ala Thr Ala Leu Gly Phe Asn Pro Pro Asp Leu Asp Ile Met
                805                 810                 815

Asn Lys Pro Pro Arg Asn Pro Lys Glu Pro Leu Ile Ser Gly Trp Leu
            820                 825                 830

Phe Phe Arg Tyr Leu Ala Ile Gly Cys Tyr Val Gly Ala Ala Thr Val
        835                 840                 845

Gly Ala Ala Ala Trp Trp Phe Ile Ala Ala Asp Gly Gly Pro Arg Val
    850                 855                 860

Ser Phe Tyr Gln Leu Ser His Phe Leu Gln Cys Lys Glu Asp Asn Pro
865                 870                 875                 880

Asp Phe Glu Gly Val Asp Cys Ala Ile Phe Glu Ser Pro Tyr Pro Met
                885                 890                 895

Thr Met Ala Leu Ser Val Leu Val Thr Ile Glu Met Cys Asn Ala Leu
            900                 905                 910

Asn Ser Leu Ser Glu Asn Gln Ser Leu Leu Arg Met Pro Pro Trp Glu
        915                 920                 925

Asn Ile Trp Leu Val Gly Ser Ile Cys Leu Ser Met Ser Leu His Phe
    930                 935                 940

Leu Ile Leu Tyr Val Glu Pro Leu Pro Leu Ile Phe Gln Ile Thr Pro
945                 950                 955                 960

Leu Asn Val Thr Gln Trp Leu Met Val Leu Lys Ile Ser Leu Pro Val
                965                 970                 975

Ile Leu Met Asp Glu Thr Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu
            980                 985                 990

Pro Gly Lys Glu Cys Val Gln Pro Ala Pro Gln Ser Cys Ser Leu Trp
        995                1000                1005
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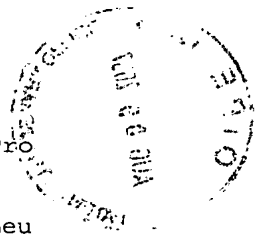

Ala Cys Thr Glu Gly Val Ser Trp Pro Phe Val Leu Leu Ile Val Pro
1010 1015 1020

Leu Val Met Trp Val Tyr Ser Thr Asp Thr Asn Phe Ser Asp Leu Leu
1025 1030 1035 1040

Trp Ser